

WHAT IS CLAIMED IS:

- 1 1. A method comprising the steps of:
2 receiving a display data;
3 determining if a predetermined criteria is met by a first representation of the display data,
4 wherein the first representation of the display data includes a first plurality of
5 display streams to be transmitted to a second plurality of display devices;
6 compressing, in a first manner, a first display stream of the first plurality of display
7 streams when it is determined that the first representation of the display data does
8 not meet the predetermined criteria.

- 1 2. The method of claim 1, wherein the step of determining further includes providing the
2 display streams to the second plurality of display devices using a common medium.

- 1 3. The method of claim 2, wherein the common medium is part of a local area network.

- 1 4. The method of claim 3, wherein a physical medium of the local area network includes
2 cable.

- 1 5. The method of claim 3, wherein a physical medium of the local area network includes
2 twisted pair wires.

- 1 6. The method of claim 3, wherein a physical medium of the local area network includes
2 optical fiber.

- 1 7. The method of claim 3, wherein the common medium includes wireless Radio Frequency.

- 1 8. The method of claim 2, wherein the common medium is part of a wide area network.

- 1 9. The method of claim 1, wherein the predetermined criteria is determined to be met when it
- 2 is expected that each display stream of the first plurality of display streams can be
- 3 transmitted in a manner allowing for real time simultaneous display of each of the first
- 4 plurality of display streams.
- 1 10. The method of claim 9, wherein the step of determining further includes:
2 determining if an actual transmission time of a frame of data for a first display stream of
3 the plurality of display streams matches a first predicted transmission time.
- 1 11. The method of claim 10, wherein the step of determining further includes:
2 determining, for each display stream in the first plurality of display streams, whether an
3 actual transmission time for a video frame matches a predicted transmission time
4 within a predetermined tolerance.
- 1 12. The method of claim 9, wherein the step of determining further includes:
2 determining, for each display stream in the first plurality of display streams, whether an
3 actual transmission time for a video frame matches a predicted transmission time.
- 1 13. The method of claim 1, wherein there is a one-to-one correspondence between display
2 streams in the first plurality of display streams and display devices in the second plurality
3 of display devices.
- 1 14. The method of claim 1, wherein there are fewer display streams in the first plurality of
2 display streams than display devices in the second plurality of display devices, where at
3 least one stream in the first plurality of display streams is shared by two or more display
4 devices in the second plurality of display devices.

- 1 15. The method of claim 1, wherein the step of receiving further includes the display data
- 2 being video data.
- 1 16. The method of claim 1, wherein the step of receiving further includes the display data
- 2 being graphics data.
- 1 17. The method of claim 1, wherein the step of receiving further includes the display data
- 2 being digital data.
- 1 18. The method of claim 1, wherein the step of receiving further includes the display data
- 2 being analog data.
- 1 19. The method of claim 1, wherein the display data further includes display data from a
- 2 plurality of sources.
- 1 20. The method of claim 1, wherein the step of receiving further includes receiving at least a
- 2 portion of the display data from a digital data stream having a plurality of multiplexed
- 3 channels.
- 1 21. The method of claim 20, wherein the digital data stream having a plurality of multiplexed
- 2 channels is an MPEG data stream.
- 1 22. The method of claim 1, wherein the step of determining includes:
- 2 determining if the predetermined criteria is met when the first plurality of display streams
- 3 is to be transmitted to the second plurality of display devices using a fixed
- 4 bandwidth.

- 1 23. The method of claim 22, wherein the fixed bandwidth is the maximum bandwidth of the
- 2 transmission medium.
- 1 24. The method of claim 22, wherein the fixed bandwidth is a predetermined portion of the
- 2 available bandwidth of the transmission medium.
- 1 25. The method of claim 22, wherein the fixed bandwidth is the maximum bandwidth of a
- 2 processing device that performs the step of compressing medium.
- 1 26. The method of claim 1 further comprising the step of:
2 selecting the first display steam from the first plurality of display streams using a
3 predefined selection method.
- 1 27. The method of claim 26, wherein the predefined selection method includes using a round
2 robin method.
- 1 28. The method of claim 26, wherein the predefined selection method includes selecting a
2 display stream of the plurality of display streams having a greatest amount of data.
- 1 29. The method of claim 26, wherein the step of selecting is based on a prioritization of one or
2 more of the display streams associated with the plurality of display streams.
- 1 30. The method of claim 26, wherein the step of selecting the first display stream is based
2 upon a previous compression of a display stream in the first plurality of display streams.

1 31. The method of claim 1, wherein the step of compressing includes:
2 compressing in the first manner when it is determined the first display stream is has not
3 been previously compressed;
4 compressing in a second manner when it is determined that the first display stream has
5 been previously compressed in the first manner.

1 32. The method of claim 31, wherein the step of compressing further includes:
2 compressing in a third manner when it is determined that the first display stream has been
3 previously compressed in the second manner.

1 33. A method comprising the steps of:
2 determining, for each display stream of a plurality of display streams, if an estimated
3 transmit time meets an actual transmit time within a desired tolerance, if not, there
4 is too much data being transmitted;
5 selecting a first stream of the plurality of display streams based on a prioritization method;
6 selecting one of a plurality of compression methods to be applied to the first stream;
7 repeating each of the above steps until the step of determining indicates the actual transmit
8 time is within the desired tolerance of the estimated transmit time.

1 34. The method of claim 33, wherein the desired tolerance is based on a desired transmission
2 rate to provide real time simultaneous display of each of the plurality of display streams.

1 35. The method of claim 33, wherein one of the plurality of compression methods includes
2 reducing the precision of the first display stream.

1 36. The method of claim 33, wherein one of the plurality of compression methods includes
2 reducing the resolution of the first display stream.

1 37. A method comprising the steps of:
2 receiving a multimedia data stream having a plurality of multimedia channels;
3 determining, for each multimedia channel in the multimedia data stream, whether an actual
4 transmission time for a multimedia channel matches a predicted transmission time
5 within a predetermined tolerance;
6 selecting, using a predefined selection method, a first multimedia channel;
7 reducing an amount of data to be transmitted associated with the first multimedia channel
8 when it is determined actual transmission time of the first multimedia channel
9 exceeds the predicted transmission time by an amount greater than the
10 predetermined tolerance.

1 38. The method as in claim 37, wherein the predefined selection method includes a round
2 robin method.

1 39. The method as in claim 37, wherein the step of reducing includes reducing the precision of
2 the data transmitted by the first multimedia channel.

1 40. The method as in claim 37, wherein the step of reducing includes reducing the resolution
2 of the data transmitted by the first multimedia channel.

1 41. The method as in claim 37, wherein the multimedia data stream includes MPEG data.

1 42. A system comprising:
2 a data processor;
3 memory operably coupled to said processor; and
4 a program of instructions capable of being stored in said memory and executed by said
5 processor, said program of instruction to manipulate said processor to:
6 receive a display data;
7 determine if a predetermined criteria is met by a first representation of the display
8 data, wherein the first representation of the display data includes a first
9 plurality of display streams to be transmitted to a second plurality of
10 display devices;
11 compress, in a first manner, a first display stream of the first plurality of display
12 streams when it is determined that the first representation of the display
13 data does not meet the predetermined criteria.

1 43. A computer readable medium tangibly embodying a program of instructions to manipulate
2 a data processor to:
3 receive a display data;
4 determine if a predetermined criteria is met by a first representation of the display data,
5 wherein the first representation of the display data includes a first plurality of
6 display streams to be transmitted to a second plurality of display devices;
7 compress, in a first manner, a first display stream of the first plurality of display streams
8 when it is determined that the first representation of the display data does not meet
9 the predetermined criteria.